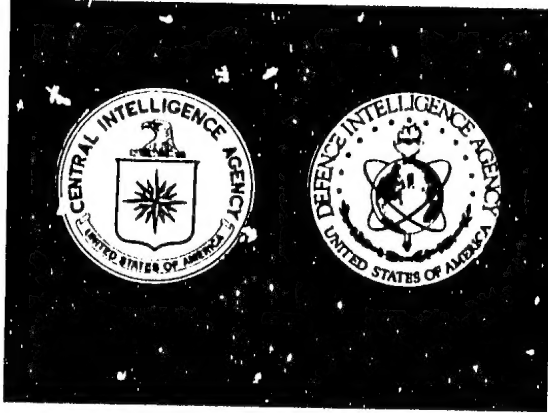


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*The South Vietnamese Air Force*

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## THE SOUTH VIETNAMESE AIR FORCE

## SUMMARY

1. The South Vietnamese Air Force (VNAF) has grown dramatically since 1970 in both manpower and aircraft. The number of personnel has increased from 36,000 to 62,000, while the inventory of aircraft has grown from 400 to 1,500. Despite the numerical growth, nearly one-half of VNAF personnel have not reached satisfactory proficiency levels, and many aircraft types are experiencing low combat ready rates because of aging and shortages of spare parts. The Vietnamese were trying to alleviate these problems through an aggressive training program, but recent reduction in US assistance levels have undercut these efforts. VNAF will be doing well simply to maintain the *status quo* during fiscal year 1975.

2. An assessment of VNAF's operational capabilities - although also recently degraded by reduced funding - indicates that VNAF has adequately supported South Vietnamese (SVN) combat forces thus far in the post-cease-fire period. It could not, however, meet SVN's tactical and logistic requirements during a Communist general offensive. This judgment is based on a comparison between the level of air support provided by both VNAF and the US Air Force to SVN ground combat units during the initial phase of the 1972 Communist offensive (April-June) and present VNAF capabilities. At current combat ready rates, we estimate that attack aircraft are capable of flying only 60% of the monthly average of close air support and interdiction sorties flown by the US Air Force and the VNAF in April-June 1972. Fixed-wing transports and helicopters are estimated to be capable of transporting 45% and 60%, respectively, of the average monthly tonnage transported to SVN combat units by the US Air Force and the VNAF during April-June 1972.

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## DISCUSSION

### Introduction

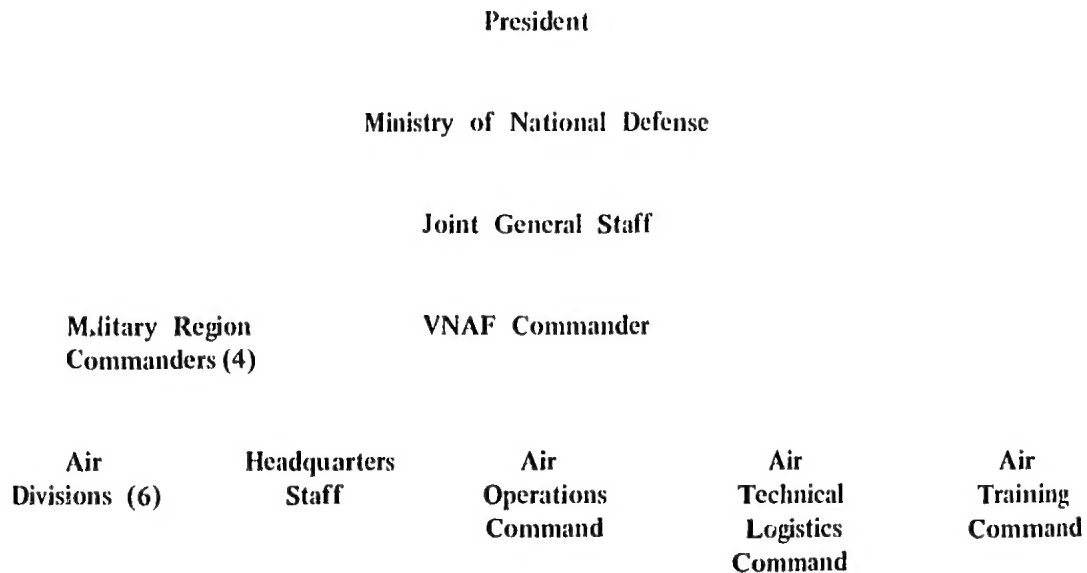
3. This publication provides a general description of the status, organization, and disposition of the VNAF, as well as a discussion of its training, logistic, and combat capabilities.

### Organizational and Disposition

4. Command and control of the VNAF is exercised by President Thieu, as Commander-in-Chief, through the Joint General Staff (JGS) and the four military region (MR) commanders (see Figure 1). VNAF is not officially represented within

#### VNAF ORGANIZATION

Figure 1



the JGS, but its senior officers serve as advisers to the JGS. Similarly, the air division commanders advise their respective ARVN commanders in the use of air assets and respond to the MR commander's air support requests. The MR commander controls all air assets within his region, while interregion deployments of aircraft must be approved by the JGS.

5. This command and control structure inhibits the flexibility in the use of VNAF air assets. For example, in the event of a Communist offensive, any

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redeployment of aircraft among various MRs would require Saigon's approval -- a costly delay to the South Vietnamese in a rapidly changing combat situation.

6. VNAF's organization comprises five major components, including six air divisions with 58 squadrons (see Figure 2) -- an Air Operations Command, an Air Technical Logistics Command (ATLC), an Air Training Center, and a headquarters staff. Each division has at least two tactical wings complemented by a maintenance

## VNAF AIR ORDER OF BATTLE

Figure 2

Air Divisions (6) Tactical Wings (15) Squadrons (58) Fighter (17) Transport (2) Helicopter (25) Liaison (9) Gunship (1) Reconnaissance (3) Special Mission (1)			
MR 1	MR 2	MR 3	MR 4
1st Air Division (Da Dang)	2d and 6th Air Divisions (Nha Trang, Phan Rang, Pleiku, Phu Cat)	3d and 5th Air Divisions (Bien Hoa, Tan Son Nhut)	4th Air Division (Can Tho)
Tactical Wings (3) Squadrons (12) Fighter (4) Helicopter (6) Liaison (2)	Tactical Wings (4) Squadrons (14) Fighter (5) Helicopter (6) Liaison (3)	Tactical Wings (5) Squadrons (21) Fighter (5) Transport (2) Helicopter (7) Liaison (2) Gunship (1) Reconnaissance (3) Special Mission (1)	Tactical Wings (3) Squadrons (11) Fighter (3) Helicopter (6) Liaison (2)

and supply wing and a base support wing. The Air Operations Command, under the supervision of the JGS, manages the daily utilization of aircraft, including the number of flying hours and type of mission requested by the MR commanders. Management of aircraft supplies, equipment, maintenance, and repair is the responsibility of the ATLC. The Air Training Center is tasked with implementing an effective training program for all VNAF personnel. Finally, the VNAF headquarters staff monitors plans and programs and performs other administrative functions such as processing personnel and financial records.

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7. Since 1970 the number of assigned VNAF military personnel has increased from 36,000 to 62,000 and is 95% of the current authorized level of 65,000. There are 38,000 personnel -- including 3,200 pilots -- assigned to the six air divisions, about 7,000 to the three support commands, 4,000 to the headquarters staff, and 13,000 in basic training (see Table 1). Despite an augmentation of 26,000 personnel since 1970, a high percentage of VNAF personnel -- about one-half -- are in basic or on-the-job training. In addition to military personnel, there are about 700 VNAF civilian personnel who fill both clerical and technical positions.

Table 1

## Assigned Strength of VNAF Military Personnel

<b>Total</b>	<b>62,000</b>
Air divisions (6)	38,000
Air Operations Command	1,000
Air Technical Logistics Command	5,000
Air Training Center	1,000
Headquarters staff	4,000
Basic training	13,000

## Inventory and Deployment of Aircraft

8. VNAF's six air divisions have an aircraft inventory (possessed)<sup>1</sup> of about 1,500, compared with 400 in 1970, comprising fighters, fixed-wing transports, helicopters, and special-mission aircraft used for reconnaissance, liaison, and training. Nearly 1,100 of the aircraft, with 62% combat ready,<sup>2</sup> fall in three major categories: fighters, fixed-wing transports, and helicopters. Fighter aircraft (F-5 and A-37) provide air interdiction and close air support missions for ground forces and a minimum air defense capability. Fixed-wing transports, primarily the C-130, constitute South Vietnam's logistic lifeline between Saigon and the four military

1. To account for the total number and types of aircraft, the United States and the SVN have categorized them according to authorized, assigned, possessed, and combat ready. The number authorized is the maximum number of aircraft allowed. The number of assigned aircraft includes aircraft in VNAF units which are located inside as well as outside South Vietnam. The number of possessed aircraft reflects the total in-country inventory of aircraft and includes those aircraft which are combat ready, down for maintenance, and in storage. The combat ready category includes all aircraft which are available to fly combat missions.

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regions and transport large amounts of troops, ammunition, and other supplies. VNAF helicopters (UH-1 and CH-47) offer the MR commander tactical flexibility and permit him to resupply combat units in remote areas.

9. On a countrywide basis, fighters and helicopters are deployed about equally between the northern military regions (MRs 1 and 2) and the southern ones (MRs 3 and 4). (For the inventory and deployment of these aircraft by military region, see Table 2.) The largest portion (42%) of fighters, however, is

Table 2

**Inventory and Deployment of Fighters, Fixed-Wing Transports,  
and Helicopters in South Vietnam as of 31 December 1974**

	Fighters <sup>1</sup>		Fixed-Wing Transports <sup>2</sup>		Helicopters <sup>3</sup>	
	Number Possessed	Percent	Number Possessed	Percent	Number Possessed	Percent
<b>Total</b>	<b>339</b>	<b>100</b>	<b>60</b>	<b>100</b>	<b>663</b>	<b>100</b>
MR 1	64	19	....	....	137	21
MR 2	80	23	....	....	217	33
MR 3	142	42	60	100	208	31
MR 4	53	16	....	....	101	15

1. Including A-37, F-5A/B/E, and grounded A-1 aircraft.
2. Including C-130 and grounded C-7 aircraft.
3. Including UH-1 and CH-47 aircraft.

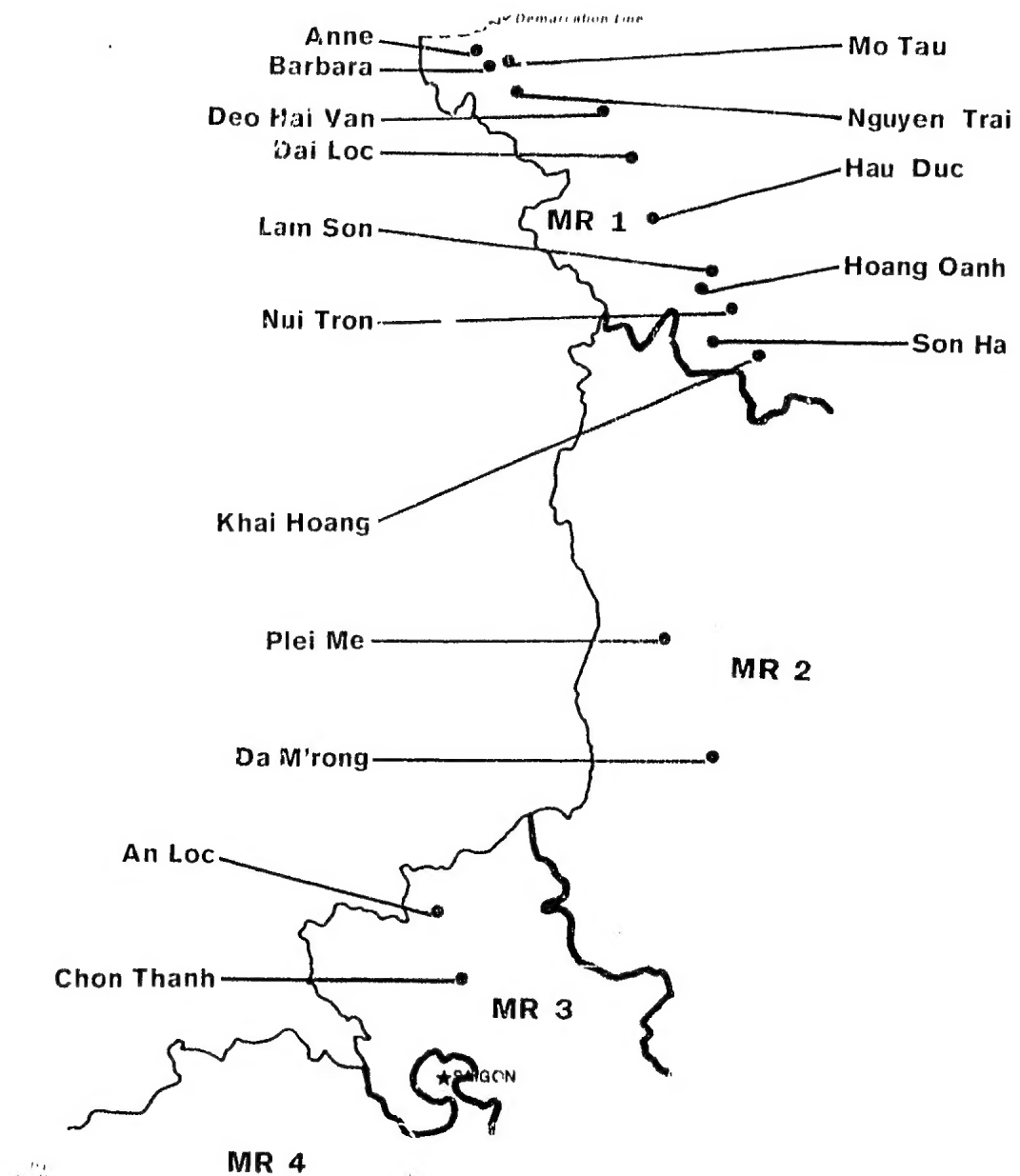
deployed in MR 3. Helicopters are more evenly distributed among the military regions to support the movement of troops and cargo. In contrast, all fixed-wing transports are located in MR 3 because it is the principal logistic distribution center. Both helicopters and transports deliver supplies to 16 major aerial resupply sites in South Vietnam (see the map).

### Logistics

10. The ATLC at Bien Hoa Airbase is the primary receiving and requisitioning center for all VNAF logistic support. The command is responsible for the effective operation of aircraft repair and rebuilding shops, depot-level overhaul of aircraft, and movement and coordination of logistic support material.



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### South Vietnam Air Resupply Points



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11. Manning levels at the ATLC have increased significantly over the past year. A large portion of these personnel, however, have not reached acceptable proficiency levels and continue to attend formal schools and perform on-the-job training. Furthermore, manning levels for both officers and NCOs are about 50% of authorized levels, resulting in critical personnel vacancies in top and middle management echelons.

12. In addition to personnel problems, ATLC operations are being hampered by the poor physical condition of aircraft, particularly the C-130 transports and CH-47 helicopters. These aircraft have been experiencing low combat ready rates because of corrosion, shortages of spare parts, and insufficient maintenance and repair space. To offset some of these problems, a limited number of C-130 transports and helicopters are scheduled to be reconditioned.

13. Although progress has occurred in moving VNAF toward logistic self-sufficiency (some US contractor support was phased out as the Vietnamese became more proficient), VNAF continues to be heavily dependent on US training and technical support. Prior to the reduction in the military aid, about 1,700 US civilian contractor personnel were employed by firms such as Lear Siegler, Inc., General Electric, and Parsons. The US personnel performed highly technical maintenance and repair functions on all types of aircraft and assisted the South Vietnamese through on-the-job training programs.

14. The cutback in US military aid during FY 1975 will exacerbate VNAF logistic and training problems (see paragraphs 15-17). Under the new budget the authorized number of US contract personnel was reduced from 1,700 to 400 -- a reduction VNAF cannot readily absorb. In this environment, VNAF will be doing well simply to maintain the *status quo*.

### Training

15. For the past several years, VNAF has concentrated on developing a strong manpower position to accommodate the rapid increase in aircraft inventories and to replace the eventual loss of skilled US manpower. Most of the formal in-country training is conducted at the VNAF Air Training Center at Nha Trang Airbase in MR 2, where seven schools have an annual training capacity of 5,500 personnel (only 3,000 are currently in training). Their programs include instruction in major aviation courses, including communications and electronics, crew and aerial gunnery, and pilot training. In addition, the divisions and wings plan and implement their own training programs on a regular basis.

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16. VNAF's accelerated training program is emphasizing pilot proficiency and efficient supply management. Present pilot training facilities provide for about 60 pilots to be trained annually. Unlike its North Vietnamese counterpart, VNAF has had no all-weather or aerial combat experience. Consequently, pilots now receive training in aerial combat tactics with the new F-5E. Training programs also have been developed to increase the number of skilled supply managers needed to operate VNAF supply facilities located throughout the country. About 1,000 personnel are currently in such training.

17. US contractors also train VNAF personnel and serve as a vital supplement to the above programs. They provide training programs to improve VNAF proficiency in transportation, maintenance, and the management of munitions and fuels at VNAF bases and depots. During the first half of 1974, about 6,500 personnel actually completed training. Moreover, some VNAF personnel - about 1,300 -- are selected each year to attend schools in the United States. Many of the students are pilots who receive specialized training in key subjects, including new equipment and weapons systems and aerial combat tactics. The overall VNAF in-country training objective for 1975, prior to the military aid cutbacks, was to train about 10,000 personnel. This goal, however, is being revised because of inadequate support.

### Operations

18. Reduced military aid has also had an impact on VNAF operations. During August 1974 the ARVN Joint General Staff grounded 224 aircraft consisting of training, reconnaissance, liaison, gunships, light fixed-wing transports (C-7), and all A-1 fighters. In addition, the aggregate number of flying hours was revised downward from 670,000 during FY 1974 to 340,000 during FY 1975. This reduction in gross capabilities was subsequently noted in most areas of VNAF operations. For example, total fighter sorties in the period September through November dropped 50% below the monthly average in the cease-fire period. Although these cutbacks are severe, VNAF has performed reasonably well during the past few months, albeit at a time when ground combat activity was either at a relatively low level or confined to a few areas.

19. During the cease-fire period, there has been an average of 310 fighter aircraft in VNAF's inventory. For the most part, 235 aircraft (76%) have been combat ready and have averaged 4,000 total sorties a month. Of the total sorties, 3,000 tactical sorties -- i.e., air interdiction and close air support -- have been flown per month, or an average of 13 sorties per combat ready aircraft. In comparison,

during the initial phases of the Communists' 1972 offensive (April-June), 120 (75%) of VNAF's inventory of fighters were combat ready, and these aircraft averaged 4,000 tactical sorties a month -- a rate of 33 sorties per aircraft. The overall monthly average for US and VNAF fighter aircraft during the same period was about 12,000 tactical sorties.

20. Owing to improvements in the VNAF logistic system and continued US assistance, we estimate that VNAF at FY 1974 support levels was capable of surging to at least an average of 30 tactical sorties per aircraft for a minimum of 30 days. We now believe, however, that this is the absolute maximum level which VNAF could maintain, and then for only a short period. At this rate, fighter aircraft<sup>3</sup> would be capable of flying 7,000 tactical sorties per month, or roughly 60% of the combined US and VNAF monthly average during the April-June 1972 period.

21. For the past year or so, VNAF transport aircraft (C-130 and C-7) met most SVN troop and logistic requirements throughout the country. Since the cease-fire, they have transported an average of 5,000 tons a month in troops and cargo, compared with a combined US and VNAF monthly average of 18,000 tons during April through June 1972 (see Table 3).

Table 3  
Combat Performance Indicators of VNAF Fixed-Wing  
Transports and Helicopters

	Thousand Tons per Month		
	Surge Capability	Post- Cease-Fire	Apr-Jun 1972
<b>Transports</b>	<b>8.0</b>	<b>5.0</b>	<b>18.0<sup>1</sup></b>
C-7	3.0	1.0 <sup>2</sup>	N.A.
C-130	5.0	4.0	N.A.
<b>Helicopters</b>	<b>13.0</b>	<b>7.0</b>	<b>9.0</b>
CH-47	5.0	2.0	2.0
UH-1	8.0	5.0	7.0

1. Including US and VNAF transport aircraft.

2. Through August 1974.

22. There are 60 transport aircraft -- C-7 and C-130 -- in VNAF's inventory; of the C-130s, 13 (52%) are combat ready. If current combat ready rates are maintained and the C-7s made operational, we estimate that VNAF fixed-wing

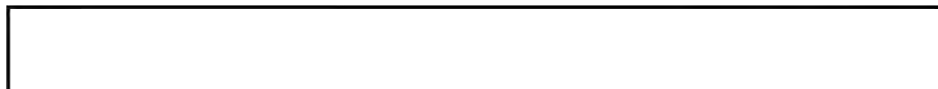
3. Including the now grounded A-1.

transport could surge to an average of 8,000 tons in troops and cargo (3,000 for the C-7 and 5,000 for the C-130) for a minimum of 30 days, or only about 45% of the US and VNAF April-June 1972 level.<sup>4</sup> Thus, additional assistance in terms of personnel and transport aircraft would be required to support SVN combat forces during a Communist offensive.

23. The helicopter is a highly effective tactical and logistic asset for the MR commander, providing mobility and a timely resupply capability during combat operations. VNAF's inventory of 663 helicopters comprises 475 combat ready aircraft -- 451 UH-1s and 24 CH-47s -- which could be used to transport troops and cargo. About 146 UH-1s, however, are assigned to medical evacuation, command and control, and gunship missions. This leaves a total of 329 helicopters (305 UH-1s and 24 CH-47s) to perform regular combat missions.

24. VNAF's helicopter combat performance since the cease-fire has been satisfactory, averaging 45,000 total sorties a month. The combat related sorties, about 25,000, have carried an average of 7,000 tons a month in troops and cargo, compared with VNAF's April-June 1972 average of 9,000. Another 10,000 to 12,000 tons a month, however, were lifted by US helicopters in support of SVN troops during the same 1972 period, yielding a combined US and VNAF monthly average of about 21,000 tons. At current combat ready rates of about 60%, we estimate that VNAF helicopters could surge for 30 days to an average of 13,000 tons in troops and cargo, or only about 60% of the April-June 1972 US and VNAF monthly average.

25. Although we conclude that VNAF could not meet the air requirements generated by an all-out Communist offensive, it can support heavy combat activity for a short duration within each of the military regions. This was shown in the Communist attacks in 1974 around Ben Cat and Bien Hoa in MR 3 and areas surrounding Da Nang and Hue in MR 1.



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